Amendments to claims:

This listing of claims will replace all prior versions and listing of claims in the application:

Listing of claims:

1. (Currently Amended) A partical-optical apparatus which includes

a particle source for producing a primary beam ~~(22)~~ of electrically charged particles which travel along an optical axis ~~(4)~~ of the apparatus,

a specimen holder for a specimen ~~(18)~~ to be irradiated by means of the apparatus,

a focusing device ~~(14,16)~~ for forming a focus of the primary beam in the vicinity of the specimen holder by means of electrostatic electrodes,

detection means ~~(6)~~ for detecting electrically charged particles emanating from the specimen in response to the incidence of the primary beam, which detection means are arranged ahead of the focusing device, viewed in the propagation direction of the electrically charged particles in the primary beam.

and an electrostatic final electrode which is arranged directly ahead of the specimen holder, viewed in the propagation direction of the electrically charged particles in the primary beam. characterized in that

the apparatus is provided with power supply means ~~(28)~~ for adjusting a potential difference between the specimen ~~(18)~~ to be irradiated by means of the apparatus and the final electrode, the power supply means electrically connected between the specimen holder and the electrostatic final electrode.

2. (Currently Amended) A particle-optical apparatus as claimed as in claim 1, in which the final electrode is formed by the electrode ~~(16)~~ of the focusing device ~~(14,16)~~ which is situated nearest to the specimen holder.

3. (Currently Amended) A particle-optical apparatus as claimed in claim 1, in which the final electrode is formed by an electrode ~~(42)~~ which is situated between the electrode ~~(16)~~ of the focusing device ~~(14,16)~~ that is nearest to the specimen holder and the specimen holder, said electrode ~~(42)~~ being rotationally symmetrical around the optical axis ~~(4)~~.

4. (Currently Amended) A particle-optical apparatus as claimed in claim 2 or 3, in which the final electrode ~~(42)~~ is symmetrically subdivided into a number of electrically isolated segments around the optical axis ~~(4)~~.

5. (Currently Amended) A particle-optical apparatus as claimed in claim 1, in which the final electrode is formed by an electrode ~~(40)~~ which is situated between the electrode ~~(16)~~ of the focusing device ~~(14,16)~~ that is nearest to the specimen holder and the specimen holder ~~(18)~~, said final electrode ~~(40)~~ being situated completely to one side of the optical axis (4).

6. (New) A particle-optical apparatus as claimed as in claim 1 wherein the potential difference is adjustable to bias secondary electrons below a preset potential away from the detection means.

7. (New) A method according to claim 1 comprising the method of varying the potential difference such that the collection efficiency is reduced to a range being 25-75% of the maximum obtainable collection efficiency, thereby simultaneously achieving close to the maximum voltage contrast.

8. (New) A method of obtaining a voltage contrast using a partical-optical apparatus which includes a particle source for producing a primary beam of electrically charged particles which travel along an optical axis of the apparatus, a specimen holder for a specimen to be irradiated by means of the apparatus, a focusing device for forming a focus of the primary beam in the vicinity of the specimen holder by means of electrostatic electrodes, a single detection means for detecting electrically charged particles emanating from the specimen in response to the incidence of the primary beam, which detection means are arranged ahead of the focusing device, viewed in the propagation direction of the electrically charged particles in the primary beam comprising: providing an electrostatic final electrode which is arranged directly ahead of the specimen holder, viewed in the propagation direction of the electrically charged particles in the primary beam; varying the potential difference between the specimen to be irradiated by means of the apparatus and the final electrode such that the collection efficiency for an area of observation by the apparatus is reduced to 25-75% of the maximum obtainable collection efficiency, said varying the potential differences maximizes the voltage contrast.

9. (New) A method of controlling secondary electron output of a specimen having at least two specimen regions using a particle-optical apparatus comprising the steps of:

producing a primary beam of electrically charged particles which travel along an optical axis of the apparatus,

holding a specimen on a specimen holder for a specimen to be irradiated by means of the apparatus,

focusing the primary beam in the vicinity of the specimen holder by means of electrostatic electrodes,

detecting electrically charged particles emanating from the specimen in response to the incidence of the primary beam, with a detection means arranged ahead of the focusing device, viewed in the propagation direction of the electrically charged particles in the primary beam,

arranging an electrostatic final electrode directly ahead of the specimen holder, viewed in the propagation direction of the electrically charged particles in the primary beam,

adjusting a potential difference between the specimen to be irradiated by means of the apparatus and the final electrode with an adjustable voltage source electrically arranged between the specimen holder and the final electrode to maximize a voltage contrast between a first and a second of the at least two specimen regions;

further adjusting the potential difference between the specimen to be irradiated by means of the apparatus and the final electrode with the adjustable voltage source electrically arranged between the specimen holder and the final electrode to maximize collection efficiency.

10. (New) A method according to claim 9 wherein the adjusting step includes adjusting the potential difference such that secondary electrons from a first specimen region have enough potential to be detected by the detecting means, and the secondary electrons from the second specimen region are prevented from reaching the detecting means.

11. (New) A method according to claim 9 wherein the further adjusting step includes adjusting the potential difference such that the collection efficiency is reduced to a range being 25-75% of the maximum obtainable collection efficiency, thereby simultaneously achieving close to the maximum voltage contrast.

12. (New) A method of controlling secondary electron output in a particle-optical apparatus according to claim 9 wherein one at least two specimen regions are conductive strips.

13. (New) A method of controlling secondary electron output in a particle-optical apparatus according to claim 12 wherein the conductive strips are on an integrated circuit.

14. (New) A particle-optical apparatus as claimed in claim 1, wherein said electrostatic final electrode has an external conical shape tapered downwardly.

15. (New) A partical-optical apparatus as claimed in claim 14, wherein a planar specimen can be tilted underneath said electrostatic electrode thereby allowing said primary beam to strike the planar specimen at an angle while substantially maintaining a focal distance.

16. (New) A particle-optical apparatus as claimed in claim 1, wherein the specimen has at least two conductive strips, one of the conductive strips being adjusted to a first voltage by said power supply means, and another of at least two conductive strips being adjusted to a second voltage.

17. (New) A particle-optical apparatus as claimed in claim 1, wherein said power supply means is adjustable for each observation.

18. (New) A particle-optical apparatus as claimed in claim 4, wherein said final electrode directs a secondary electron obliquely toward said detection means.